



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D350-636-011
Job Sheet 178940



Part No: D350-636-011

Job Qty: 1 ea

Part Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 6/11/18

Job Tracking No:

Due Date: 7/6/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: D2750-041 REV G SHEETS 1,2,4,8 IPP Rev:I 02.09.25 IPP Rev:J 06-03-23 As per Rev D IPP Rev:K 06-07.13
As per dsi9343 IPP Rev:L 07-07-28 Added SS Wearplates(Rev E) JLM Verf:EC IPP Rev:M 08-04-22 DD
verified:EC IPP Rev:N 08-09-23 revF DD verified:ec IPP Rev:O 09-02-06 per PAR09-010 DD verf:EC IPP
Rev:P 10.06.22 revise seq110 DD verf:EC IPP Rev:Q 10.10.01 as per IIN revH DDverf:EC IPP REV:R
13.08.27 PER ECN13-594 DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	7/6/18	7/6/18	0.00	0.00	Start Up Skidtubes-1		DD
110	Skidtubes	1 pcs	7/6/18	7/6/18	0.00	4.55	Skidtubes-4		DD, BE
120	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC10		DD 18-06-28
130	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC5		DD 18-06-28
140	HandFinish	1 pcs	7/6/18	7/6/18	0.00	0.93	HandFinish1		BE 18-07-03
150	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC7-2		BE
160	Skidtubes	1 pcs	7/6/18	7/6/18	0.00	4.55	Skidtubes-4		BE TJ
170	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC10		DD 18-08-01
180	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC5		DD 18-08-01
190	HandFinish	1 pcs	7/6/18	7/6/18	0.00	0.93	HandFinish2		SA 18-08-01
200	SprayPaint	1 pcs	7/6/18	7/6/18	0.00	0.91	Spray Paint		AS AUG 02 2018
205	Outsource	1 pcs	7/6/18	7/6/18			ATE003-VC		N/R
210	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC14		DAS 18-08-01
230	HandFinish	1 pcs	7/6/18	7/6/18	0.00	0.93	HandFinish4		BE 18-08-13
240	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC5		AUG 15 2018
250	Packaging	1 pcs	7/6/18	7/6/18	0.00	0.00	Packaging1-3		AUG 17 2018
260	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC4		DAS
270	Packaging	1 pcs	7/6/18	7/6/18	0.00	0.00	Packaging3-1		21 AUG 20 2018
275	DC	1 pcs	7/6/18	7/6/18	0.00	0.00	DC		21 AUG 20 2018
280	QC21-FG	1 Ea	7/6/18	7/6/18	0.00	0.00	QC21		21 AUG 20 2018

Part Op 110 - 1- Pick D2600-3 Bent 2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg
Descriptions: D2750-1 3- Drill pilot holes for blade fitting bolt holes using DT8983. Start with 3/16", then open to 0.500" using center drill
then ream holes using 0.500" reamer. PIN first side. Repeat process on second side. ***ENSURE PROPER
POSITIONING FWD BEND MUST BE FACING UP WHEN DRILLING FIRST SIDE*** Drill pilot holes as per Dwg D2750
sheet 4 (D2750-1 details). Drill using drill Jig DT8150 & DT8863A for 2nd side only DT8863B for first side (detail B) 4-
Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting. Open to 0.500" using hole saw. VERIFY
AND RECORD FWD BEND ANGLE. 5-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".
6-Open up holes of Detail A to 0.297" (total of 2 holes per side) 7-Weld D2744 Cap as per Dwg D2750 and QSI 004.Fill
grooves in bend left from bending as per QSI 004 A/R Aluminum Rod batch: 138834 8-Grind welds flush as per Dwg
D2750
160 - 1-Open up holes using hole saw of Detail C and ground handling to 0.625" (total of 8 holes per side) as per dwg
D2750. 2-Open up holes using hole saw of Detail B to 0.750" (total of 4 holes per side) as per dwg D2750. 3- Open float

WORK ORDER NON-CONFORMANCE / UPDATE



DOA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No.: _____ NCR No.: _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermofforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐	
Date: _____		Step #: _____		QTY Effective: _____	
Description Work Order Deviation				Disposition	
Container No: S082750 Part: D350 - 636 - 011 Job No: 178940 Serial No/Batch: S082750 Revision: _____ Inspector: _____ Exp Date: _____ Instructions: _____ DART Aerospace Ltd. 1270 Aberdeen Street Hawkesbury, ON K6A 1K7 CANADA TEL.: 1 813 632-5200 Email: sales@dartaero.com www.dartaerospace.com Date: 06/20/18				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
				LT CATEGORY	
Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			

hole using un-bit to 0.500" (4 per side) 4-Chamfer holes of Detail B, C, ground handling and float ho
(welding instructions on sheet 8) 5-Deburr and blow out all chips from inside of tube 6- Prepare tube
alodine as required. 7-Bond web D2739 in place as per QSI 015, let cure for 12hrs. A/R Sikaflex-291
exp. date: ***ATTN: USE I-BEAM LOCATION AID (BLADE FITTING)*** 8- Weld spacers D34
and D2743 as per dwg D2750 & QSI004 (welding instructions on sheet 8) A/R Aluminum Rod batch: 138831
section AJ-AJ drill out x-bolt spacer to 0.404" 10-Grind welds flush as per Dwg D2750 11-Spot face ground handling
section (total of 4 places per side) as per dwg D2750 12-Deburr holes, ensure tube is free of all scratches before send
to paint.

180 - ***VERIFY C'BOARD IS GOOD***

190 - Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

200 - 1- PRIME AS PER DWG AND QSI 005 4.2 PRIMER PRC DESOTO 515X349 BATCH: 138862 2-

PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: 138886

210 - Inspect for foreign object per QSI 024

230 - 1- Install inserts as per Dwg D2750 2-Inspect for Foreign Objects 3- Install blade fitting D3488-041, wearshoes and
ground handling hardware as per dwg D2750 SIKA FLEX 241 BATCH: M138877 EXP DATE: 06/19 4-

Assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: M138843 5- Coat all
exposed fasteners with "LPS Procyon" batch: M133690

260 - *****ensure antiseize is on AN8C21A bolts*****

270 - Package as per PPP D350-636-011 Location : FG072

275 - record fwd angle: 89.9 Photocopy blue file and type labels per PPP D350-636-011 CHG 007

004960

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2600-3-BENT-LH	Extrusion Bent LH	1 Ea (1 ea)	90-Start up Operation	5082073
D2744	Cap	1 Ea (1 ea)	110-Skidtubes	5063692
D2739	350 I-Beam	1 Ea (1 ea)	160-Skidtubes	5081150
D2743	Crossbolt Spacer	8 Ea (8 ea)	160-Skidtubes	5082661/1 5090612 x7
D3490-1	Cross Bolt Spacer	4 Ea (4 ea)	160-Skidtubes	5065863
D3490-3	Cross Bolt Spacer	4 Ea (4 ea)	160-Skidtubes	5066254
AN3C5A	Bolt	34 Ea (34 ea)	230-HandFinish	3095214
AN3C6A	Bolt	4 Ea (4 ea)	230-HandFinish	5076000
AN6C44A	Bolt	4 Ea (4 ea)	230-HandFinish	5006333-1
AN8C35A	Bolt	1 Ea (1 ea)	230-HandFinish	FM137203
D2745	Bushing	8 Ea (8 ea)	230-HandFinish	5091818
D3488-041	Blade Fitting LH	1 Ea (1 ea)	230-HandFinish	5092787
D3492-1	Plug	8 Ea (8 ea)	230-HandFinish	5077552
D3492-3	Plug	8 Ea (8 ea)	230-HandFinish	5091848
D3535-25	Wearplate Center	1 Ea (1 ea)	230-HandFinish	5082036
D3536-25	Gasket Center	1 Ea (1 ea)	230-HandFinish	5081731
D3537-1	Wearpad	3 Ea (3 ea)	230-HandFinish	5053117
D3631-1	Washer	8 Ea (8 ea)	230-HandFinish	5058407
D3791-1	Wearpad	1 Ea (1 ea)	230-HandFinish	5071379
D3793-1	Wearplate Fwd	1 Ea (1 ea)	230-HandFinish	5089345
D3793-3	Wearplate Aft	1 Ea (1 ea)	230-HandFinish	5089463
D3794-1	Gasket Fwd	1 Ea (1 ea)	230-HandFinish	5071975
D3794-3	Gasket Aft	1 Ea (1 ea)	230-HandFinish	5081738
MS21043-6	Nut	4 Ea (4 ea)	230-HandFinish	5083545
MS21083C8	Nut	1 Ea (1 ea)	230-HandFinish	5050046-1
NAS1149C0332R	Washer	38 Ea (38 ea)	230-HandFinish	5056493
NAS1149C0832R	Washer	1 Ea (1 ea)	230-HandFinish	M138409-121
NAS1515H3L	Washer	4 Ea (4 ea)	230-HandFinish	5036714
NAS1611-010	O-Ring	8 Ea (8 ea)	230-HandFinish	5092499
NAS1611-013	O-Ring	8 Ea (8 ea)	230-HandFinish	5083560
ALS4-1032-225	Rivnut	38 Ea (38 ea)	230-HandFinish	5058138
AN8C21A	Bolt	2 Ea (2 ea)	250-Packaging	FM137162
D2741	Replacement Blade	1 Ea (1 ea)	250-Packaging	5068565
D3493-1	Washer	2 Ea (2 ea)	250-Packaging	5095455
D3532-1	Spacer	2 Ea (2 ea)	250-Packaging	5090421
MS21083C8	Nut	2 Ea (2 ea)	250-Packaging	5050046
NAS1149D0863J	Washer	2 Ea (2 ea)	250-Packaging	5089248

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2600-3-BENT-LH	1	3	0

110-Skidtubes	D2744	1	77	0
160-Skidtubes	D2739	1	9	0
	D2743	8	78	0
	D3490-1	4	124	0
	D3490-3	4	103	0
230-HandFinish	ALS4-1032-225	38	4,690	0
	AN3C5A	34	1,863	0
	AN3C6A	4	432	0
	AN6C44A	4	323	0
	AN8C35A	1	55	0
	D2745	8	57	0
	D3488-041	1	13	0
	D3492-1	8	328	0
	D3492-3	8	159	0
	D3535-25	1	15	0
	D3536-25	1	22	0
	D3537-1	3	116	0
	D3631-1	8	875	0
	D3791-1	1	27	0
	D3793-1	1	20	0
	D3793-3	1	20	0
	D3794-1	1	46	0
	D3794-3	1	20	0
	MS21043-6	4	208	0
	MS21083C8	1	109	0
	NAS1149C0332R	38	5,937	0
	NAS1149C0832R	1	447	0
	NAS1515H3L	4	171	0
	NAS1611-010	8	509	0
	NAS1611-013	8	405	0
250-Packaging	AN8C21A	2	102	0
	D2741	1	78	0
	D3493-1	2	43	0
	D3532-1	2	26	0
	MS21083C8	2	109	0
	NAS1149D0863J	2	93	0

Part Specifications

Specifications could not be found.

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN8C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH: ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
STANDARD: PRIME (REF. 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2
OPTIONAL: POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- WELD PER DART QSI 004
- INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
FINISH WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

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WORK ORDER

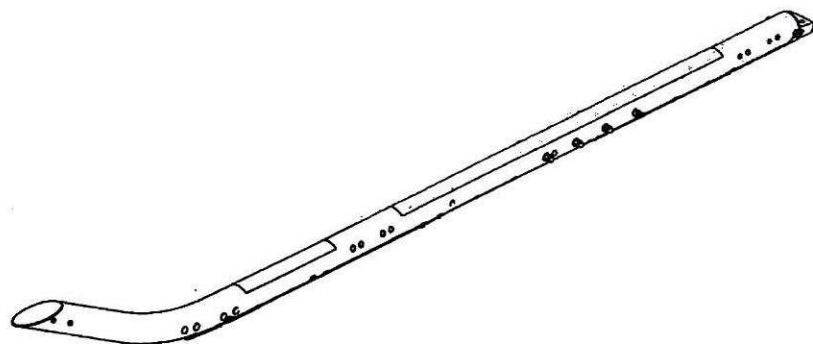
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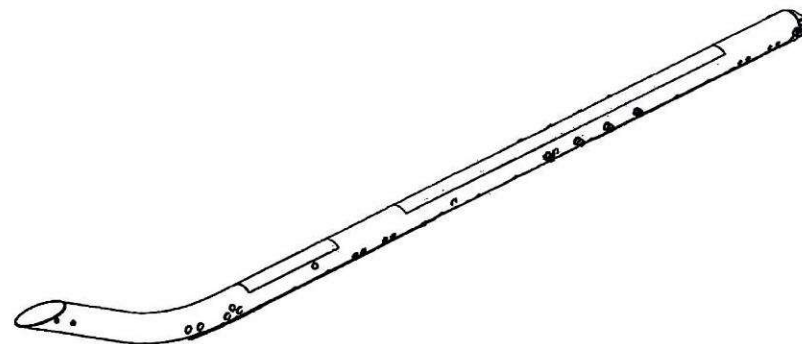
G	CORRECTED TOLERANCE ON $\phi 0.500$ THRU HOLE: IS +0.010/-0.000, WAS +0.100/-0.000 (ZN B3-4, B2-5); ADD VIEW TO CONTROL FWD BEND ORIENTATION (ZN D-1-4-5-6-7); UPDATED FINISH OPTIONS; INSIDE OF TUBE NO LONGER SPRAYED WITH LPS-3. REASON: PAR13-276 AND NCR13-2757	MB	13.07.11
F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3535-13/35 (ZN C8-1); D3794-1/3 REPLACES D3536-13/35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL), WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS, CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741, QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	MIN		
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	13.07.11		

DART AEROSPACE USA, INC.

KENT, WA
DRAWING NO. REV. G
D2750 SHEET 1 OF 11
TITLE SCALE
350 SKIDTUBE ASSEMBLY NTS
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D2750-041 350 SKIDTUBE ASSEMBLY, LH

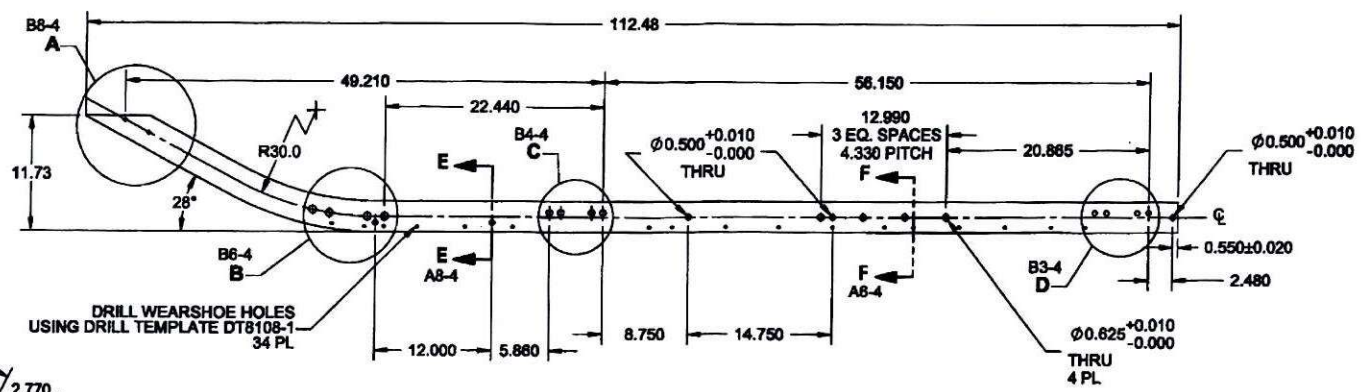


D2750-042 350 SKIDTUBE ASSEMBLY, RH

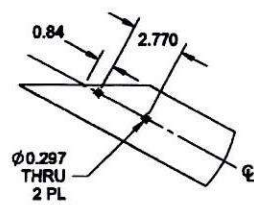
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DESIGN	MM	DART AEROSPACE USA, INC.	
DRAWN	<i>[Signature]</i>	KENT, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO. D2750	REV. G
MFG. APPR.	<i>[Signature]</i>	SHEET 2 OF 11	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	350 SKIDTUBE ASSEMBLY	NTS
DATE	13.07.11	COPYRIGHT © 1999 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS UNCLASSIFIED AND IS SUPPLIED ON THE CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR DISCLOSED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

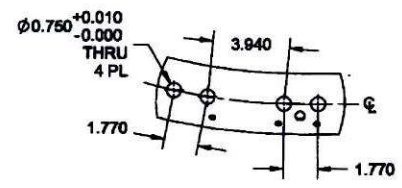
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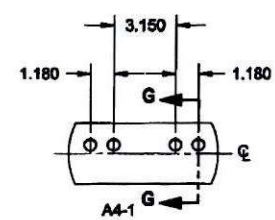
D2750-1 LH SKIDTUBE



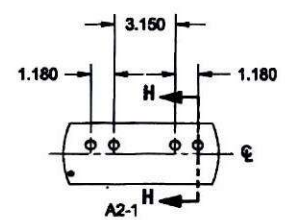
DETAIL A
SCALE 2X



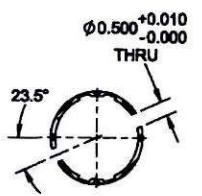
DETAIL B
SCALE 2X



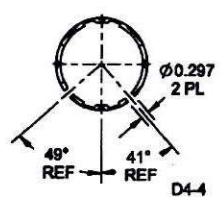
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SCALE 2X



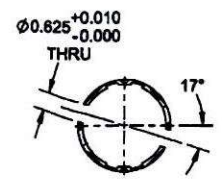
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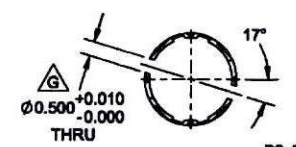
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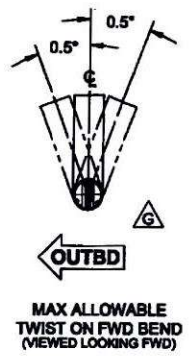
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SCALE 3X, 17 PL



SECTION G-G
SCALE 3X, 4 PL



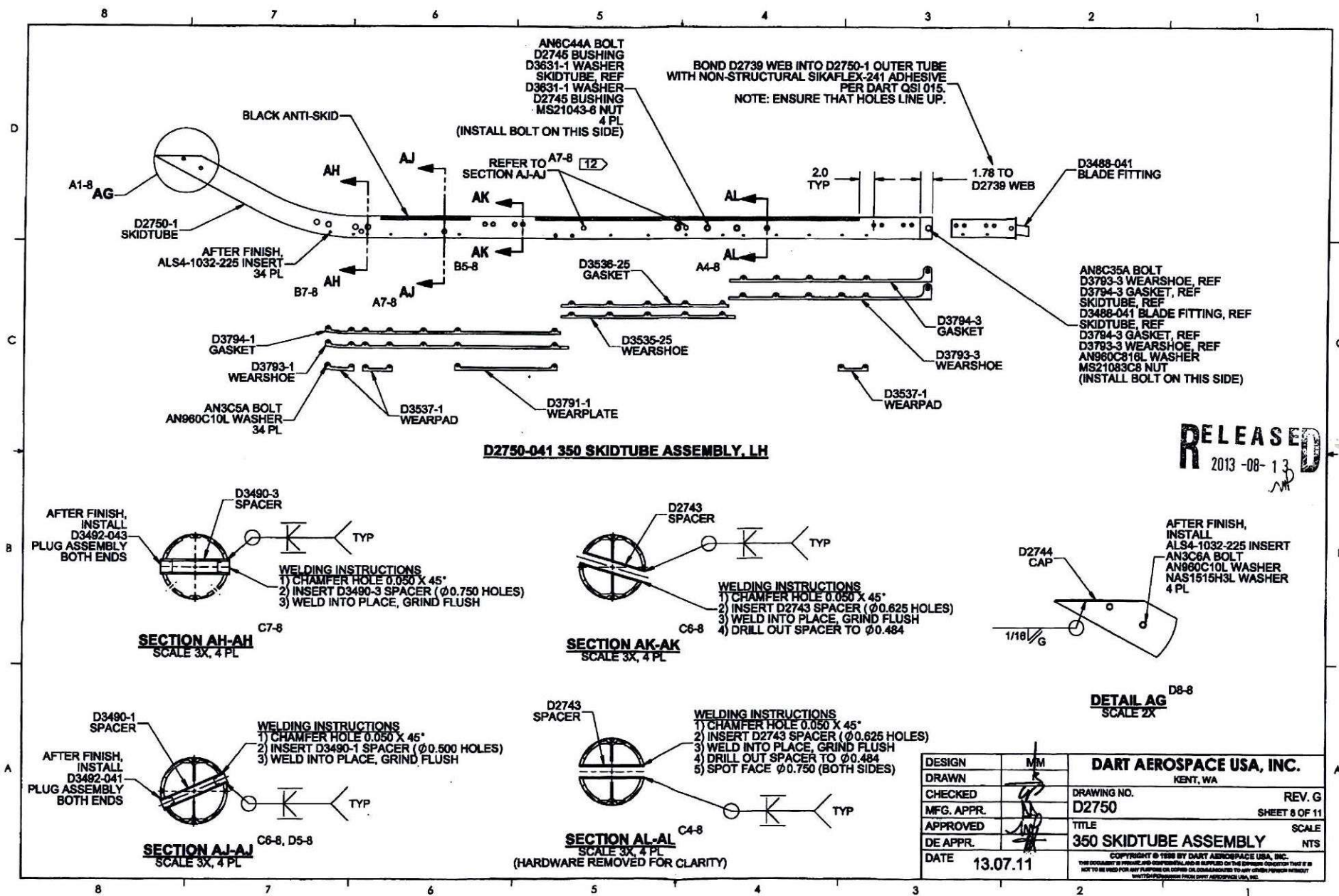
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DESIGN	MM	DART AEROSPACE USA, INC.	
DRAWN		KENT, WA	
CHECKED		DRAWING NO.	REV. G
MFG. APPR.		D2750	SHEET 4 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
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